PHENIX

TECHNICAL SUPPORT 2014

PHENIX WEEKLY PLANNING

September 25, 2014

Don Lynch

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This Week

TECHNICAL SUPPORT 2014

- Continue prep for MPC-Ex North installation
- Continue VTX/FVTX troubleshooting & repairs
- Continue FVTX cooling line and N2 distribution upgrades
- Continue assembly of MPC-Ex North (@ SB)
- Continue sPHENIX support
- Support MuTr work

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TECHNICAL SUPPORT 2014

Next Week

- Continue assembly of MPC-Ex North (@ SB)
- Finish prep work for MPC-Ex North installation
- Continue VTX/FVTX troubleshooting & repairs
- Continue FVTX cooling line and N2 distribution upgrades
- Continue sPHENIX support

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TECHNICAL SUPPORT 2014

2014 planned Technical Support & 2014 Shutdown

Open MMN hatch, MuTr North Sta 2 & 3 maintenance and repairs	7/9-9/30/2014
Remove FVTX/VTX East & West to PHYSICS, repair and reinstall	7/14 – 10/15/2014
VTX/FVTX Upgrade cooling lines, chiller preventive maintenance	7/21-10/6/2014
Assemble & test MPC-Ex North, ready for installation	8/1-10/6/2014
MuTr Sta 1 & Sta. North troubleshooting and repairs	8/11-9/30/2014
Electronic Cooling Water High Temp Alarm	**8/11-10/31/2014**
Prep MPC-Ex North installation area	8/18-9/26/2014
F/VTX Cooling line upgrades teflon to stainless	8/25-10/31/2014
F/VTX N2 supply manifold upgrade	8/25-10/31/2014
F/VTX Chiller preventative maintenance	8/25-10/31/2014
Reinstall MMS east vertical lampshade	9/2-10/3/2014 ?
Install new MPC-Ex North, thoroughly test before moving CM north	**9/8-10/20/2014**
Assemble & test MPC-Ex South, ready for installation	**9/2-10/31/2014**

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2014 planned Technical Support & 2014 Shutdown (cont'd)

Remove Sta 1 N scaffolds, Move CM North, Install scaffolding in Sta 1 S	**10/10- 10/20/2014**
Install MPC-Ex South	**10/20-11/4/2014**
Reinstall, reconnect, re-survey and re-commission VTX/FVTX	10/16-11/26/2014
sPHENIX Support	on-going
End of Shutdown Tasks (Move MS north, roll in EC , install collars, remove 10 ton cart, plates and manlifts, build shield wall, etc.)	12/1-12/12/2014
DC East & West maintenance & repairs	10/20-10/31/2014
Pink/White/Blue Sheets	12/1-12/19/2014
End of Shutdown Party	????
Start Flammable gas flow	????
Close shield wall, install radiation interlocks and prepare for run 14	12/31/2014
Start run 15	1/2/2015

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Work Permits for 2014 Shutdown

- Start of Shutdown - Done
- VTX/FVTX East - Done
- MPC-Ex - Done
- MuTr Sta 1 N & S - Done (scaffold agreement done)
- MuTr North station 2/3 - Done
- MuTr South station 2/3 & MMS South Water leak - Done
- MPC North - Done
- DC East/West – need by 10/20
- End of Shutdown – need in December

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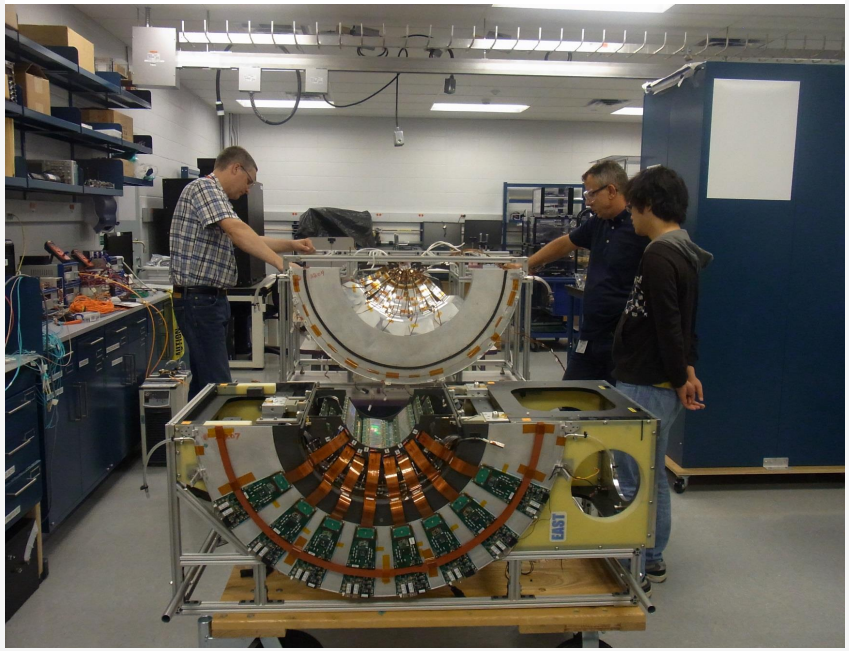

VTX/FVTX to be ready for re-installation NO LATER THAN 10/20/2014

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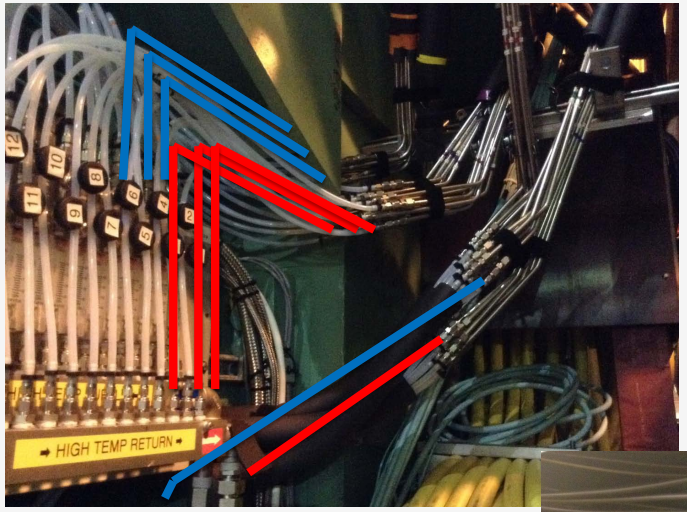
Top manifold has 13 Supply and 13 return lines. Both North and south need to be replaced.

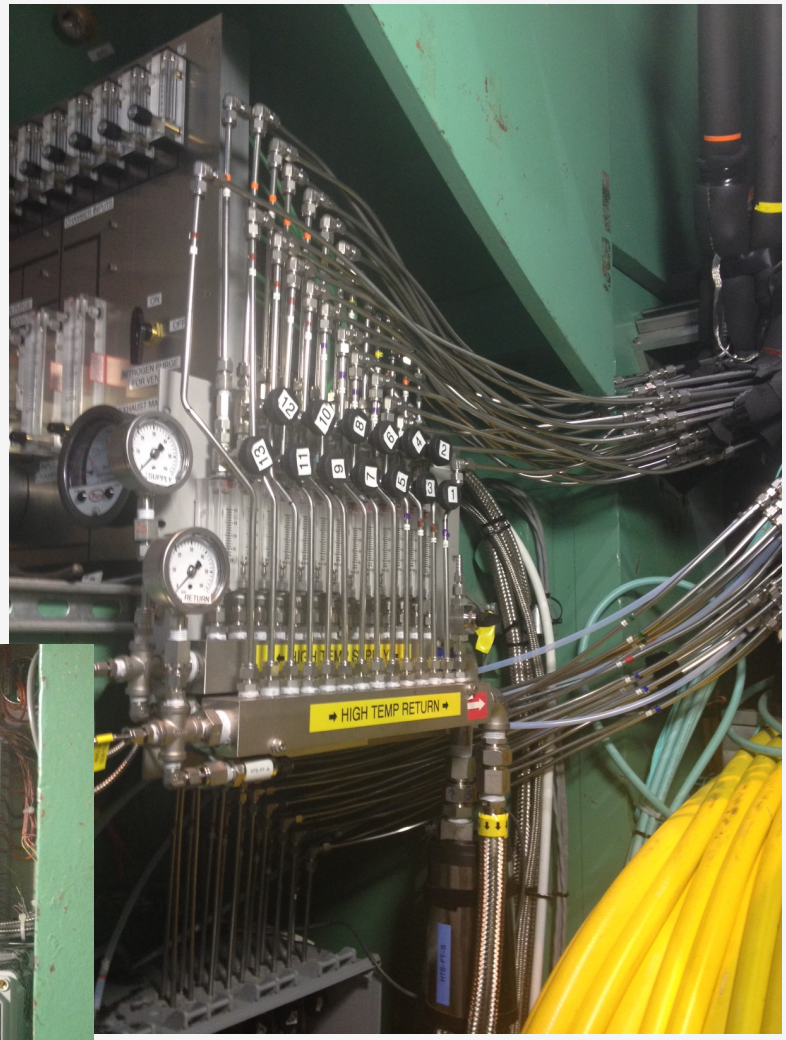
Bottom manifold has 9 Supply and 9 Return lines Both North and South need to be replaced



Current labeling on tubes needs to be maintained and copied to new lines

Bends need to be done carefully so not to restrict flow. Swage elbows can also be used for sharp bends

Replace All Teflon lines with ¼”ID 316 thin walled Stainless McMaster Coil:89995K82
Or Rigid with Min ID 0.21” (89995K288)



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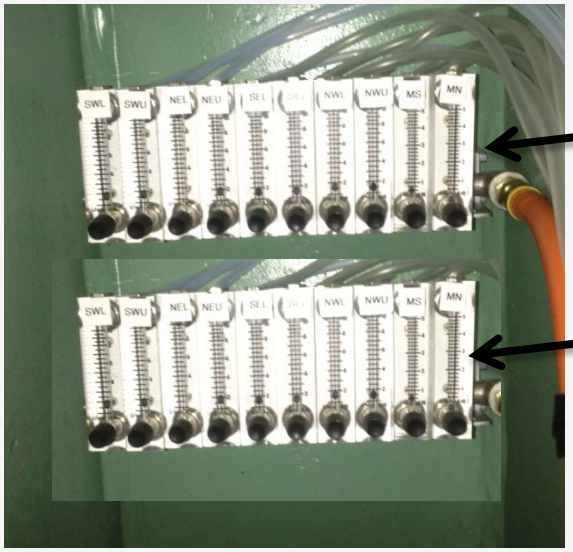
VTX/FVTX N2 Supply Manifold.
Located on south side of central magnet



Original N2 Distribution Panel

New N2 Distribution Panel
- 10 flowmeters
- 0-10lpm
- Output ¼”I.D barb
- Leave about 10” space between manifolds.

Shutdown work on chillers to help with reliability

1. Change pump seals on chillers 1 and 3
   - Chris replaced chiller 2's pump seal. There was some trial and error to get it right.
   - We have these parts
2. Replace both control solenoids and Filter on chiller 1 and 2
   - We have these parts
   - BNL HVAC guys. Schedule for Beginning of OCT
3. General annual maintenance on all 3 units listed in manual
   - HVAC guys/ Phenix Tech

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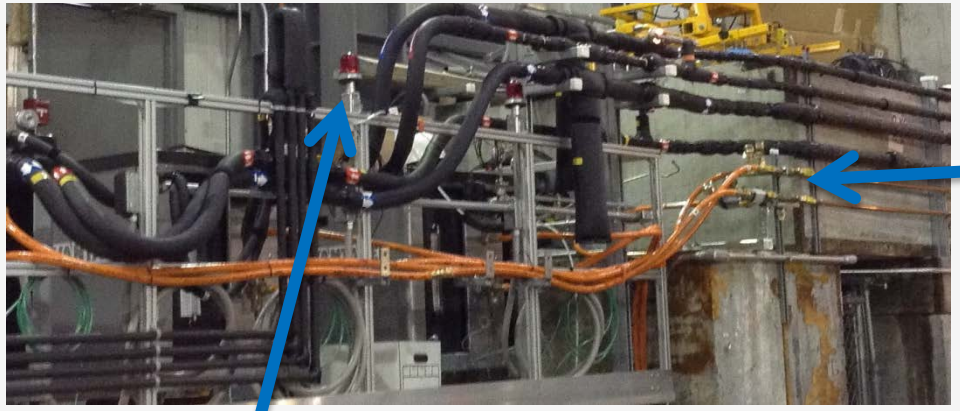
Modifications to Water lines to make switchover less time consuming.

Permanently connect water lines to all 3 chiller through a new 3 channel manifold. Currently the manifold only has 2 channels. It needs to have a 3rd channel added for the spare chiller. We should also replace the flowmeter s with ones that have a smaller scale.



Manifold Location

Instrument spare chiller with alarms similar to other two chillers.

1. Need to add float switch to lid. (I have parts)
2. A third strobe and audible alarm added to rail. (Frank did this last time)

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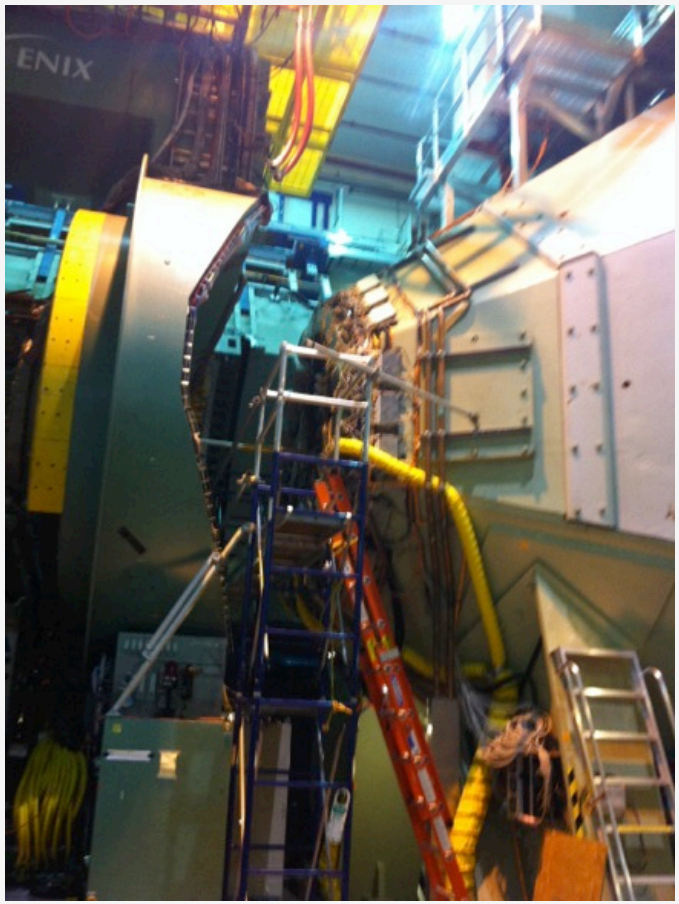
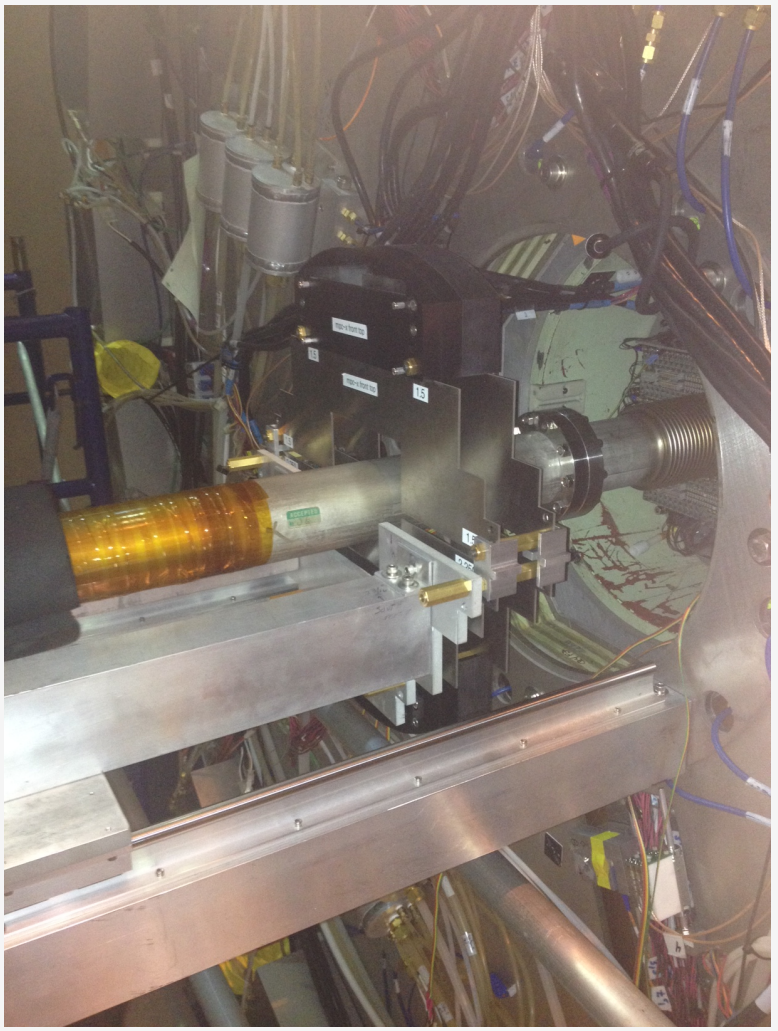


MPC-Ex North Just about ready to go.



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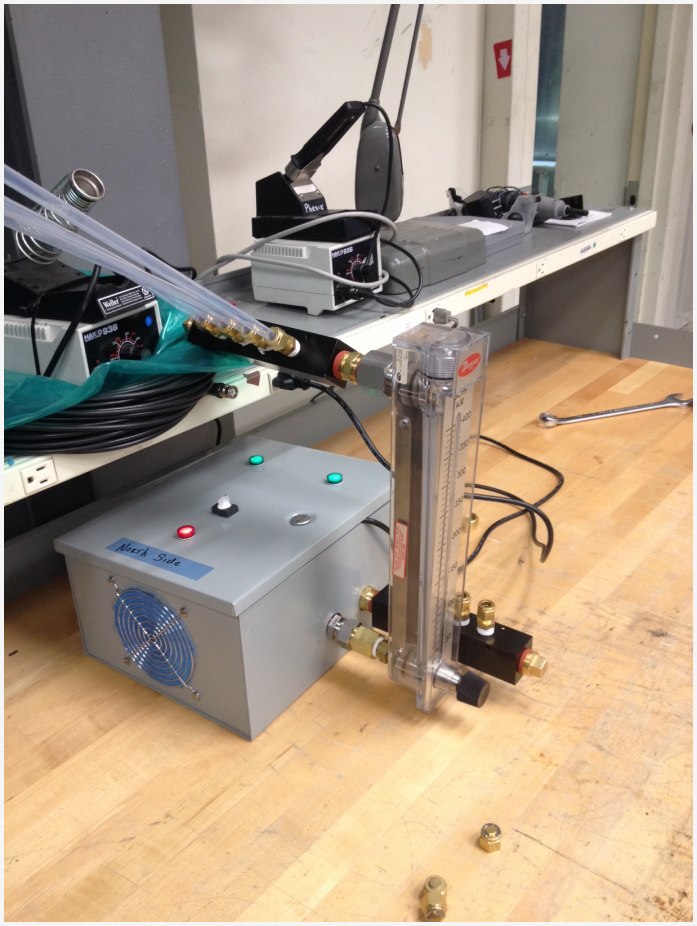
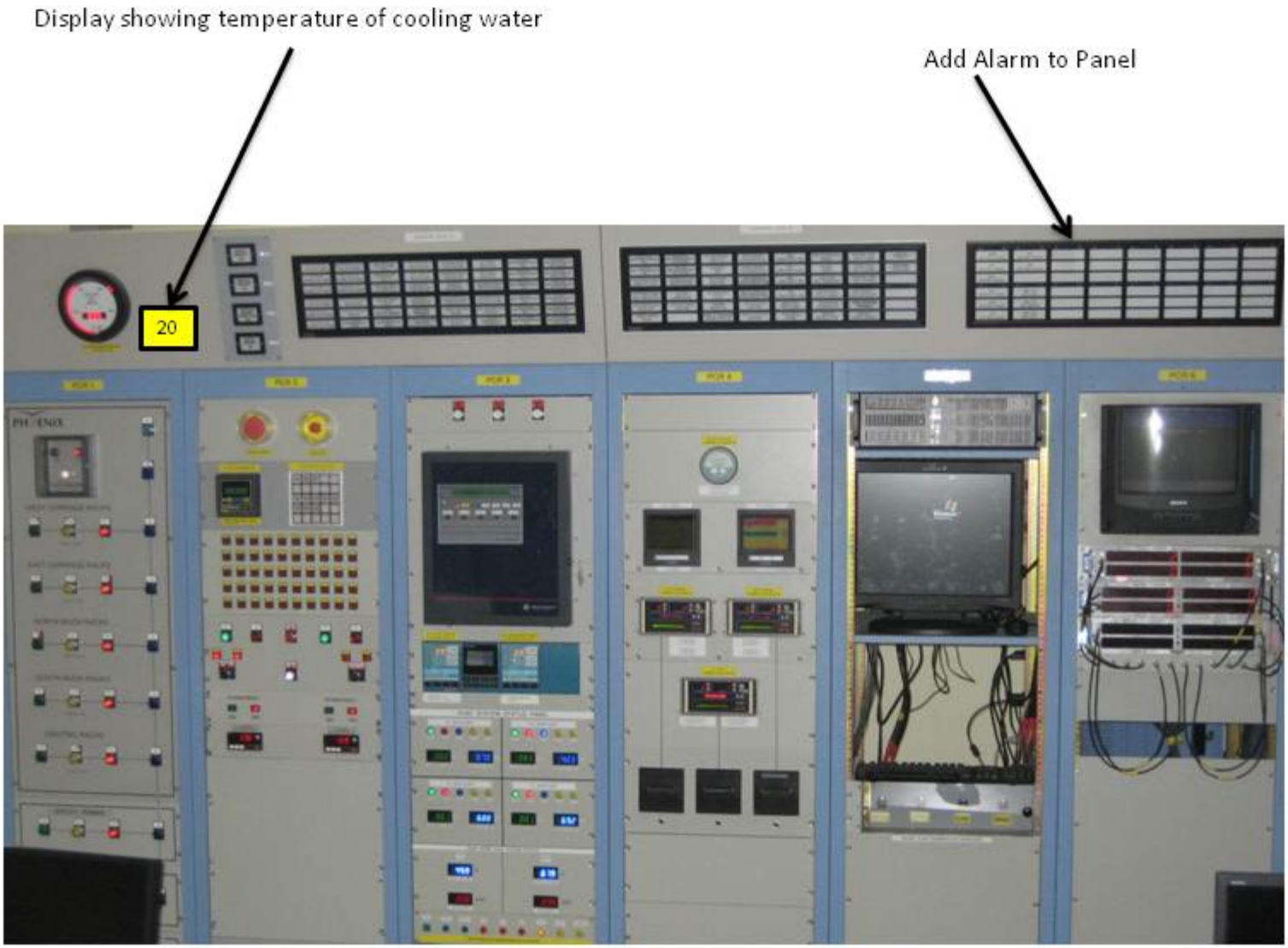
MPC-Ex Flow tests



Electronics Cooling Water High Temperature Alarm



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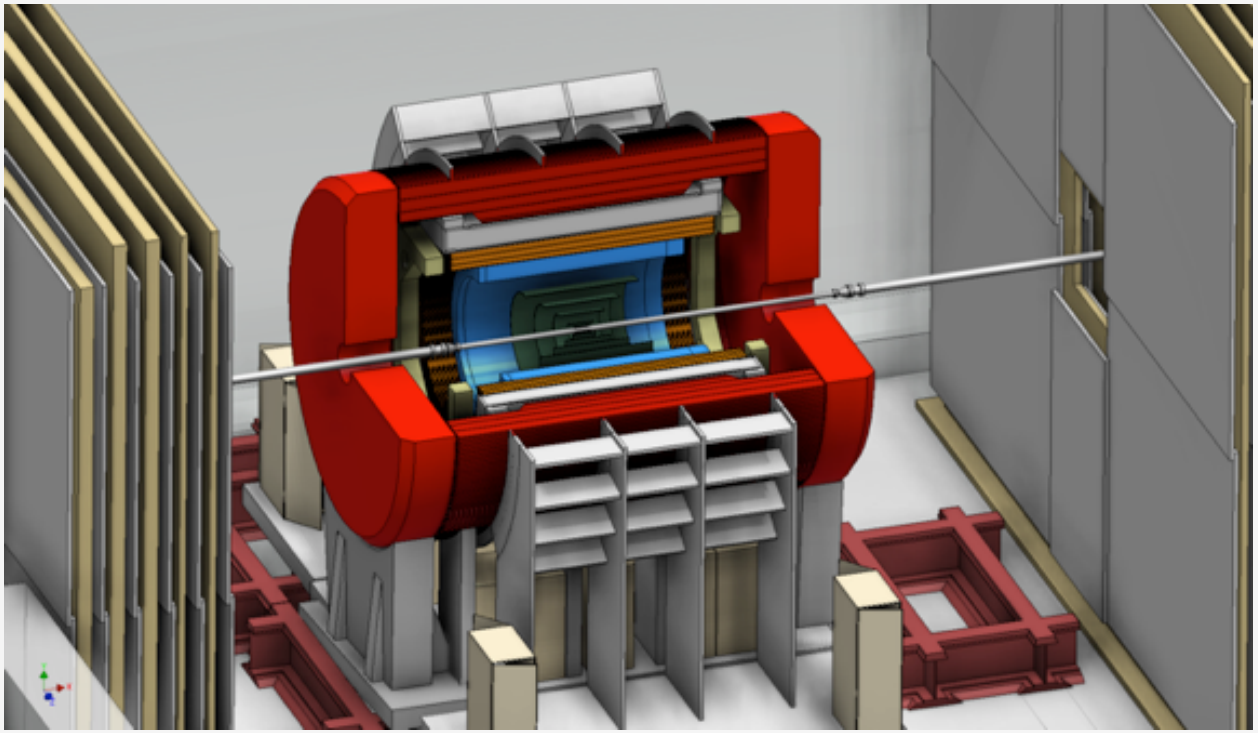
sPHENIX Update



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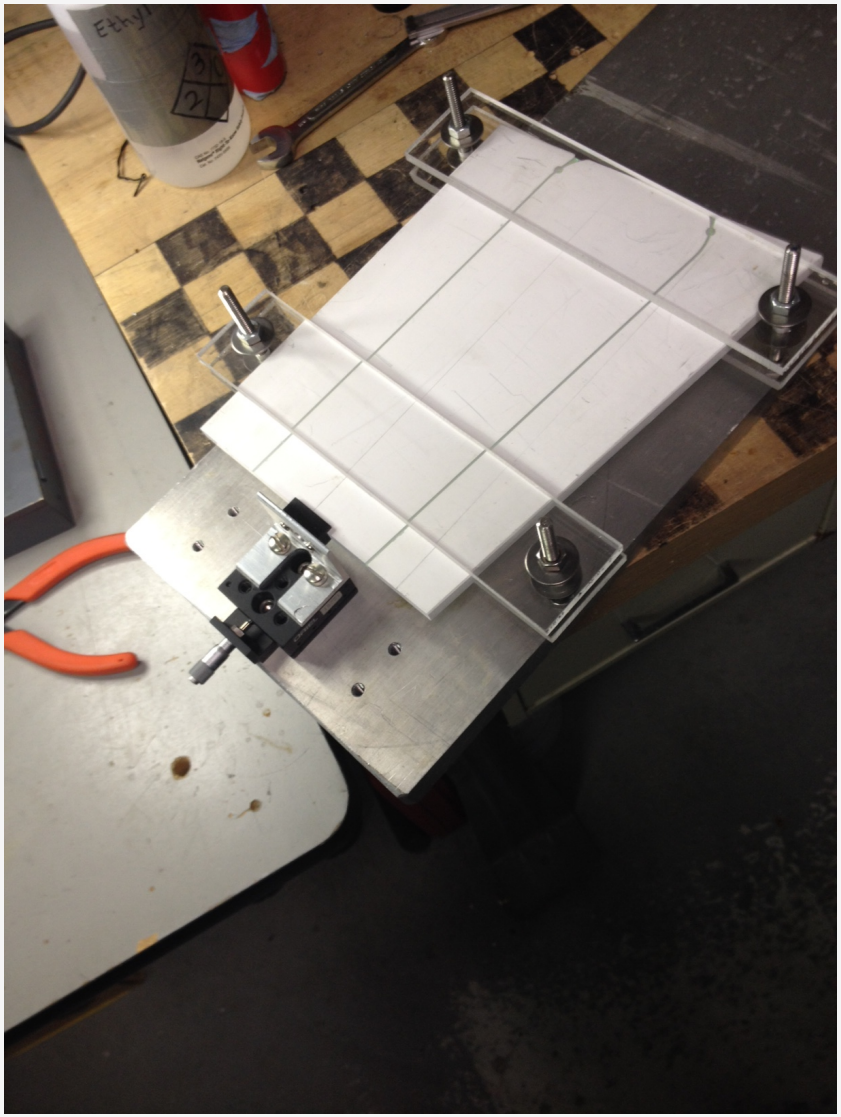

sPHENIX HCal scintillator test setup

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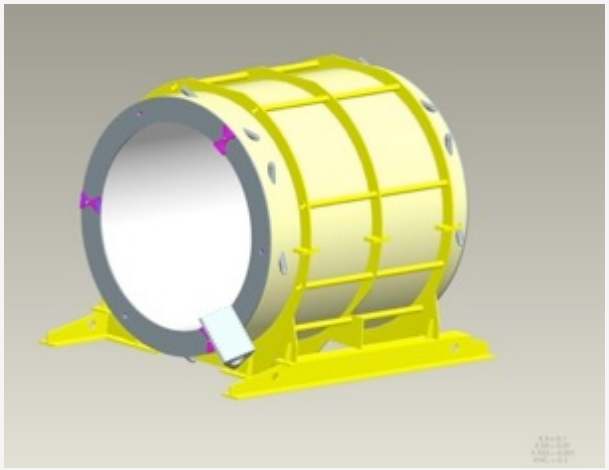
sPHENIX Update:



- Almost ready to ship; shipping fixtures sent to SLAC last week, Mike Racine (SLAC) to install them. Expect to ship ~10/6. May send someone to be there when it ships out of SLAC.

-Hi-pot test to be performed when received at BNL

- Need to prepare for a safety committee review (ASME cert.)

- May need a 500 liter Dewar for operation of magnet during a shutdown (e.g. mag mapping) would be located on CP upper platform.

- Expect to perform low field cold test by ~June 30, 2015

- Next meeting: 1pm, Wed, Oct 1, testing plan to be discussed in more

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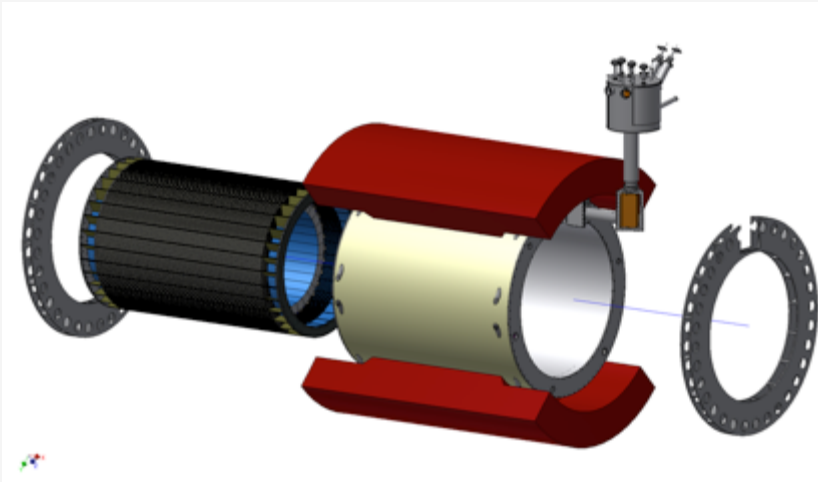
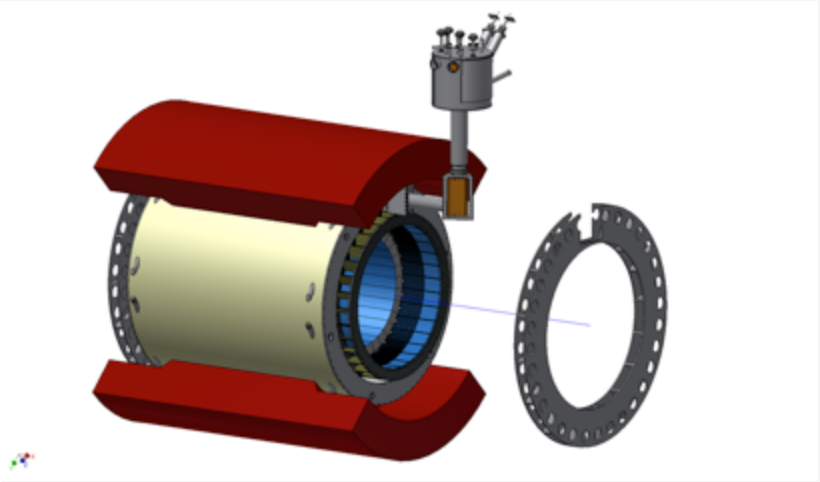
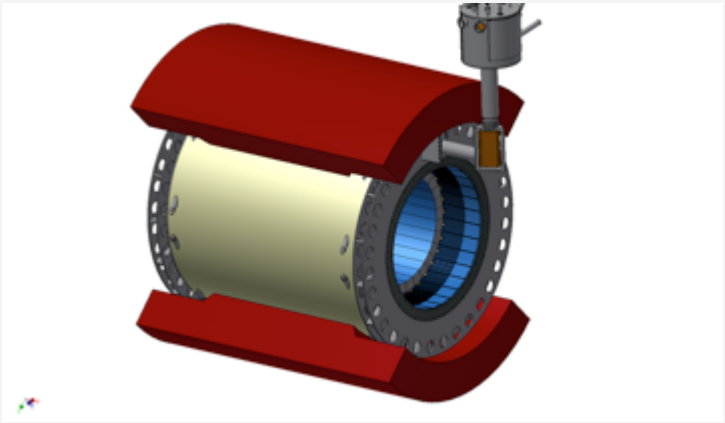
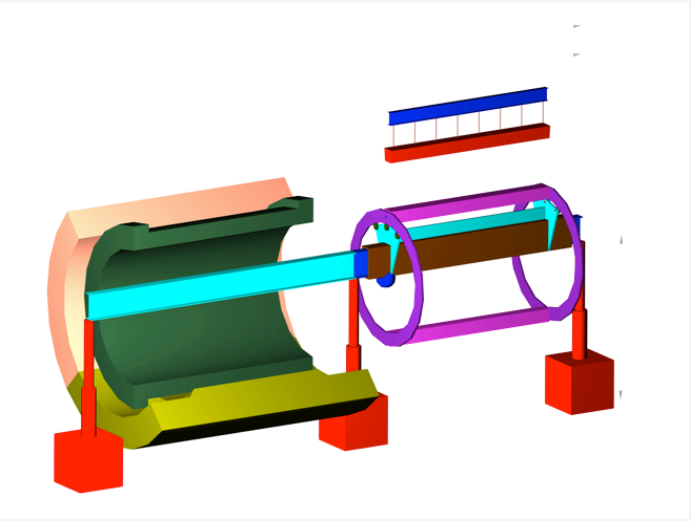
Internal Support Concept



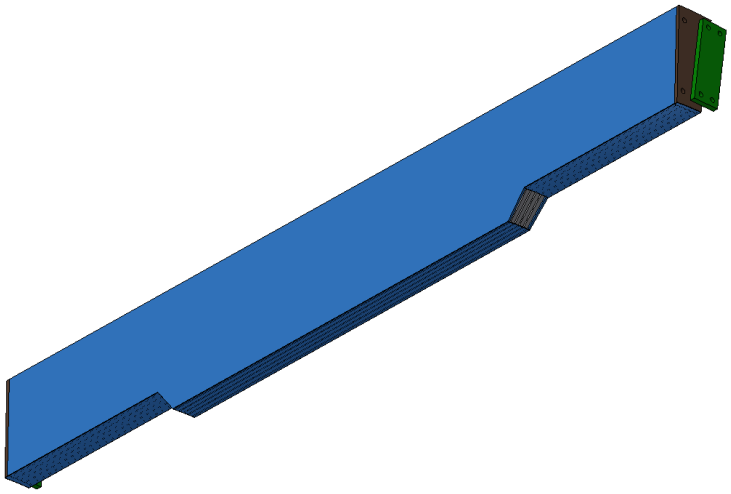


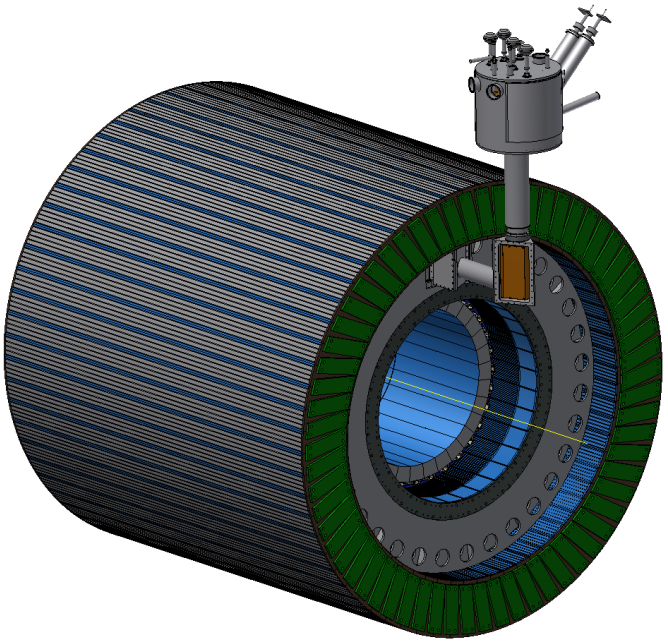




Outer HCal Design Concept:

64 Modules tied at ends





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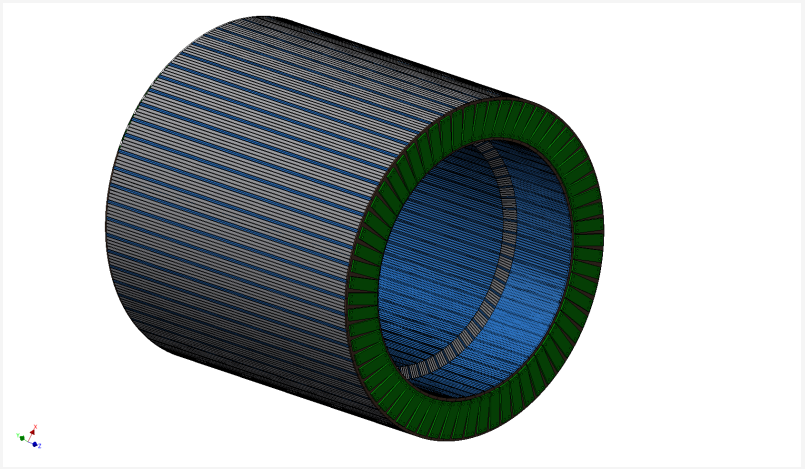

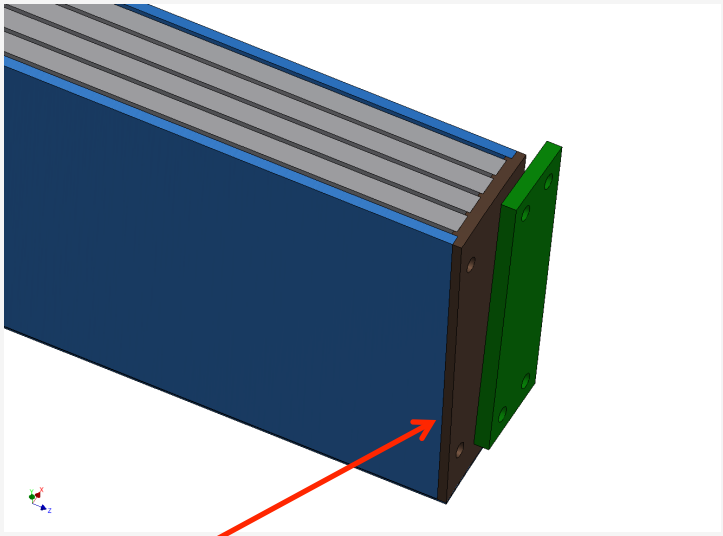

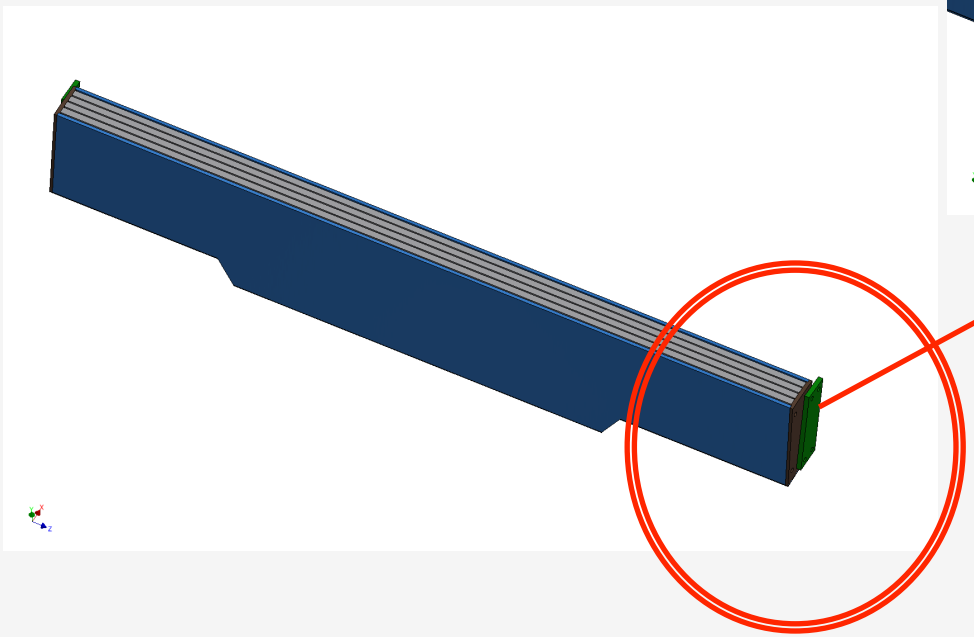

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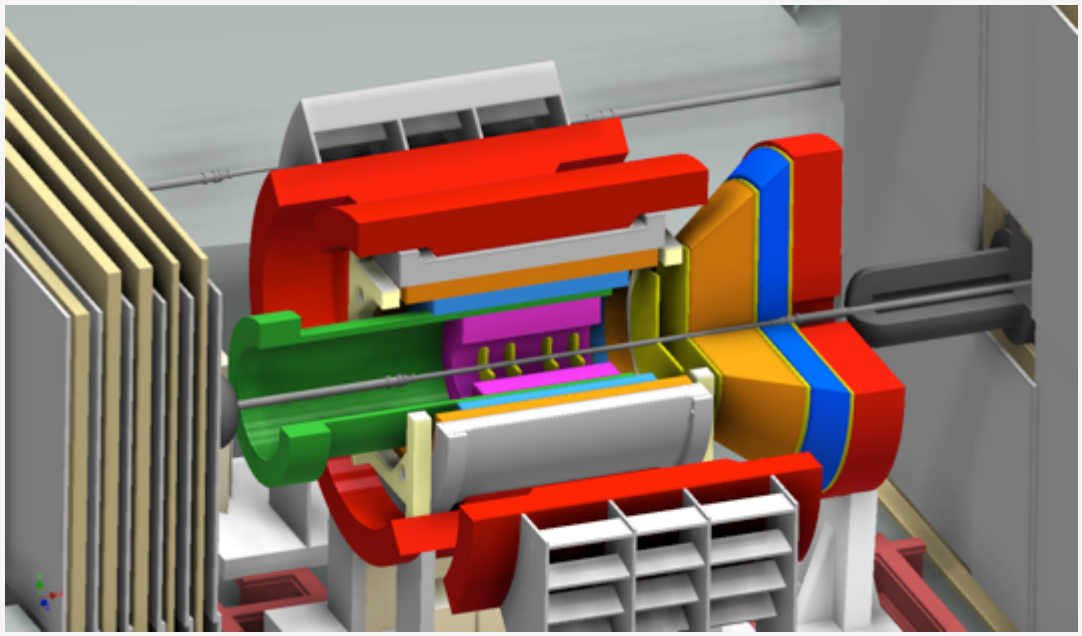

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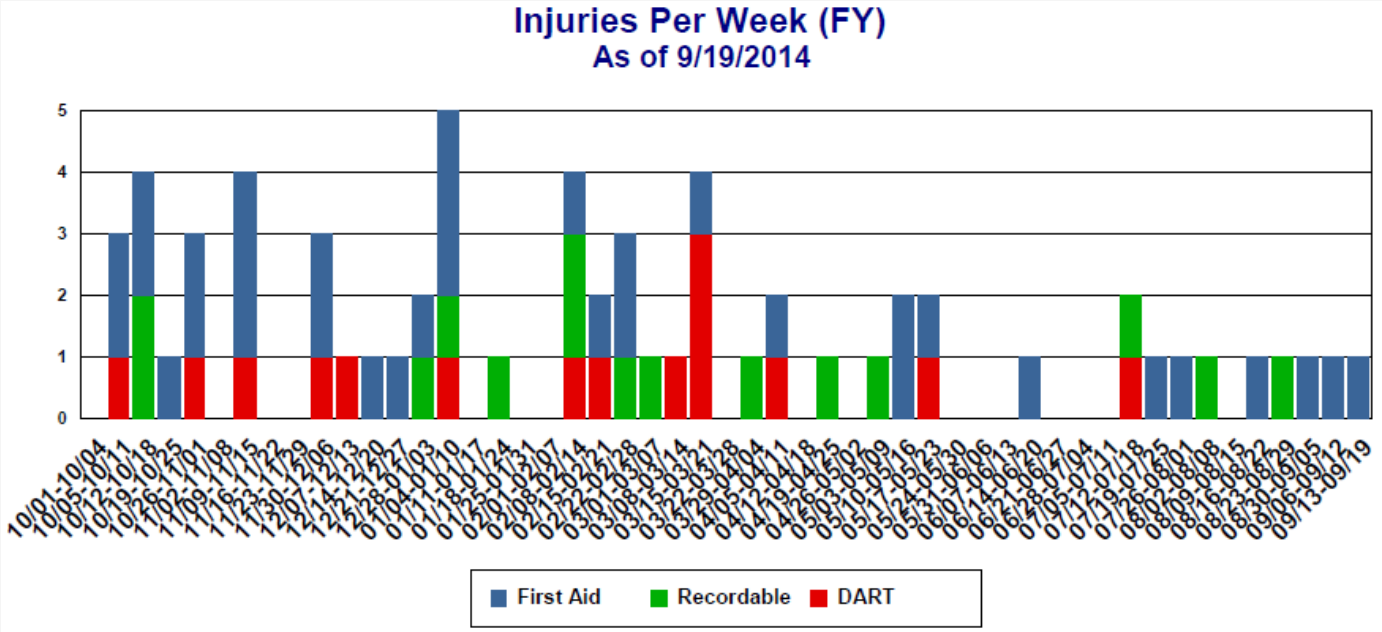

Injury Status:

FY14 YTD: DART – 14, TRC – 30, First Aid – 32
FY13: DART – 16, TRC – 38, First Aid – 53
FY12: DART – 19, TRC – 36, First Aid – 69

FY14 Injury Listing:
https://intranet.bnl.gov/esh/shsd/seg/OccInj/BNLInjuries.aspx

Recent Injuries		
9/15/14	First Aid	An employee was injured while driving a lab vehicle off-site. At the OMC, first aid was given and the employee returned to normal duties.
9/11/14	First Aid	An employee was stung by an insect and received first aid at the OMC.

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Recent Events		
9/18/14	Non-Reportable	Uncoated lead was found stacked and tossed under an outside storage area beneath the front porch of Building 348. They appear to be placed on the ground and may have been covered in plastic at one time. There is some plastic under the porch, partially covering the lead. Most of the lead appears to be bricks, along with some odd-shaped pieces. The area is about 4 to 5 feet wide and a couple of feet deep. It is not known when the lead was stored or who stored it. (Event Link)
9/18/14	Non-Reportable	A research staff member checked several ultra-low temperature (ULT) freezers containing legacy research samples (which were left behind awaiting property transfer) and discovered that one ULT freezer had no power and the contents were at room temperature instead of the normal -80 degrees centigrade. Investigation revealed that the two circuit breakers associated with the unit's outlet had tripped, and the alarm connection to the Chilled Water Facility was disconnected from the rear of the freezer. The samples were relocated to other ULT freezers to minimize loss. Investigation is continuing and the Principle Investigator will inspect the samples to determine amount of loss. (Event Link)
9/18/14	Non-Reportable	A damaged fire hydrant was discovered in the traffic circle by Building 740. The hydrant was apparently struck by an unknown vehicle. The hydrant is unusable and will have to be replaced. (Event Link)
9/16/14	Non-Reportable	Two abandoned wires were exposed during excavation to install new conduit at Bld. 811. A BNL electrician verified that the wires were de-energized and determined that they were previously used for street lighting that has since been removed. This work was done under a Digging Permit for the project; the exposed wires were not on the Utility Map or identified on any document. (Event Link)
9/11/14	Non-Reportable	A transfer of bagged radioactive waste from B-801 to B-912 was completed using a government vehicle. Once the truck bed was emptied and the bagged waste placed in waste containers in B-912, the radiological control technician surveyed the truck bed and found contamination. No personnel were contaminated. The highest contamination level in the truck bed was 5,300 DPM/100cm2. This is below the SCBNL trigger level of 25,000 DPM/100cm2 and below the ORPs trigger level of 50,000 DPM/100cm2. The truck was kept in B-912 until decontaminated. C-AD is in the process of writing a Radiological Awareness Report to document the causes of the contamination and corrective actions taken to prevent recurrence. The work was done under a Radiological Work Permit at both buildings. (Event Link)

Where To Find PHENIX Engineering Info

Fall is back again !!

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm